SAMSUNG

WASHING MACHINE
TOP-LOADING TYPE

Basic Name : WA48H7400AW
(WA-7000HA PJT)
Basic Code : WA48H7400AW/A2
Model Name : WA48H7400AP
(WA-7000HA PJT)
Model Code : WA48H7400AP/A2

SERVICE *Manual*

WASHING MACHINE (TOP-LOADING)

CONTENTS

1. Safety Instructions
2. Features and Specifications
3. Disassembly and Reassembly
4. Troubleshooting
5. PCB Diagram
6. Wiring Diagram
7. Reference

CONTENTS

1. Safety instructions 1
1-1. Safety instructions for service engineers 1

2. Features and Specifications 5
2-1. Features 5
2-2. Specifications 6
2-3. Detail features 7
2-4. Options specifications 8

3. Disassembly and Reassembly 9
3-1. Tools for disassembly and reassembly 9
3-2. Standard disassembly drawings 10

4. Troubleshooting 19
4-1. Error modes 19
4-2. Corrective actions for each error code 21
4-3. The installation for leveling. 26

5. PCB diagram 27
5-1. Main PCB 27
5-2. Detailed Manual for Connector and Relay Terminal Part - Main PCB 28
5-3. Sub PCB 29
5-4. Detailed Manual for Connector Terminal Part - Sub PCB 30

6. Wiring diagram 31
6-1. Wiring diagram 31

7. Reference 32
7-1. Model Number Naming Rules 32

1. SAFETY INSTRUCTIONS

1-1. SAFETY INSTRUCTIONS FOR SERVICE ENGINEERS

► Be sure to observe the following instructions to operate the product correctly and safely to prevent possible accidents and hazards while servicing.

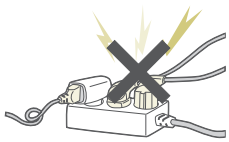
► Two types of safety symbols, Warning and Caution, are used in the safety instructions.

⚠ **WARNING**	**Hazards or unsafe practices that may result in severe personal injury or death.**
⚠ **CAUTION**	**Hazards or unsafe practices that may result in minor personal injury or property damage.**

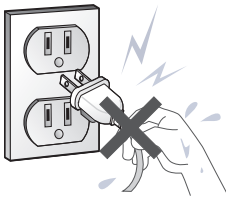
⚠ WARNING BEFORE SERVICING

- (When servicing electrical parts or harnesses) Make sure to disconnect the power plug before servicing.
  - Failing to do so may result in a risk of electric shock.

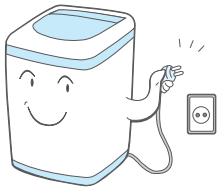
- Do not allow consumers to connect several appliances to a single power outlet at the same time.
  - There is a risk of fire due to overheating.



- When removing the power cord, make sure to hold the power plug when pulling the plug from the outlet.
  - Failing to do so may damage the plug and result in fire or electric shock.



- When the washing machine is not being used, make sure to disconnect the power plug from the power outlet.
  - Failing to do so may result in electric shock or fire due to lightning.



- Do not place or use gasoline, thinners, alcohol, or other flammable or explosive substances near the washing machine.
  - There is a risk of explosion and fire caused from electric sparks.

⚠ WARNING WHILE SERVICING

- Check if the power plug and outlet are damaged, flattened, cut or otherwise degraded.
  - If faulty, replace it immediately.
    Failing to do so may result in electric shock or fire.

- Completely remove any dust or foreign material from the housing, wiring and connection parts.
  - This will prevent a risk of fire due to tracking and electrical hazard..

- When connecting wires, make sure to connect them using the relevant connectors and check that they are completely properly.
  - If tape is used instead of the connectors, it may cause fire due to tracking.

- Make sure to discharge the PBA power terminals before starting the service.
  - Failing to do so may result in a high voltage electric shock.

- When replacing the heater, make sure to fasten the nut after ensuring that it is inserted into the bracket-heater.
  - If not inserted into the bracket-heater, it touches the drum and causes noise and electric leakage.

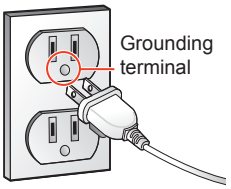
⚠ WARNING AFTER SERVICING

- Check the wiring.
  - Ensure that no wire touches a rotating part or a sharpened part of the electrical harness.

- Check for any water leakage.
  - Perform a test run for the washing machine using the standard course and check whether there is any water leakage through the floor section or the pipes.

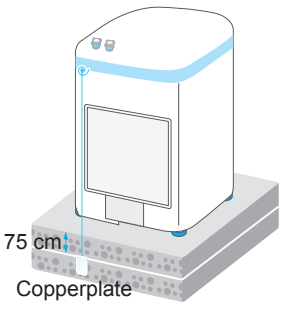
- Do not allow consumers to repair or service any part of the washing machine themselves.
  - This may result in personal injury and shorten the product lifetime.

- If it seems that grounding is needed due to water or moisture, make sure to run grounding wires.
  (Check the grounding of the power outlet, and additionally ground it to a metallic water pipe.)
  - Failing to do so may result in electric shock due to electric leakage.



[Running a grounding wire]

- Twist a grounding wire (copper wire) two or three times around the tap.
- If you connect the grounding wire to a copperplate, bury it 75 cm under the earth in a place with a lot of moisture.
  ⚠ Do not connect the grounding wire to a gas pipe, plastic water pipe or telephone wire. There is a risk of electric shock or explosion.

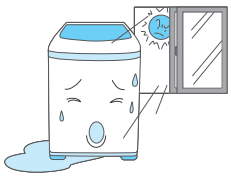


⚠ CAUTION BEFORE SERVICING

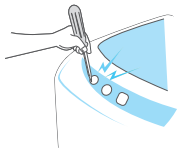
- Do not sprinkle water onto the washing machine directly when cleaning it.
  - This may result in electric shock or fire, and may shorten the product lifetime.

- Do not place any containers with water on the washing machine.
  - If the water is spilled, it may result in electric shock or fire. This will also shorten the product lifetime.

- Do not install the washing machine in a location exposed to snow or rain.
  - This may result in electric shock or fire, and shorten the product lifetime.



- Do not press a control button using a sharp tool or object.
  - This may result in electric shock or damage to the product.



⚠ CAUTION WHILE SERVICING

- When wiring a harness, make sure to seal it completely so no liquid can enter.
  - Make sure that they do not break when force is exerted.

- Check if there is any residue that shows that liquid entered the electric parts or harnesses.
  - If any liquid has entered into a part, replace it or completely remove any remaining moisture from it.

- If you need to place the washing machine on its back for servicing purposes, place a support(s) on the floor and lay it down carefully so its side is on the floor.
  - Do not lay it down on its front. This may result in the inside tub damaging parts.

⚠ CAUTION AFTER SERVICING

- Check the assembled status of the parts.
  - Now is a good time to inspect your work. Review all connections and wiring, including mounting hardware.

- Check the insulation resistance.
  - Disconnect the power cord from the power outlet and measure the insulation resistance between the power plug and the grounding wire of the washing machine. The value must be greater than 10MΩ when measured with a 500V DC Megger

---

- Check whether the washing machine is level the floor with respect to the original position of the washing machine prior to service.
  By doing this now will reduce for the need of customer dissatisfaction and redo call.
  - Vibrations can shorten the lifetime of the product.

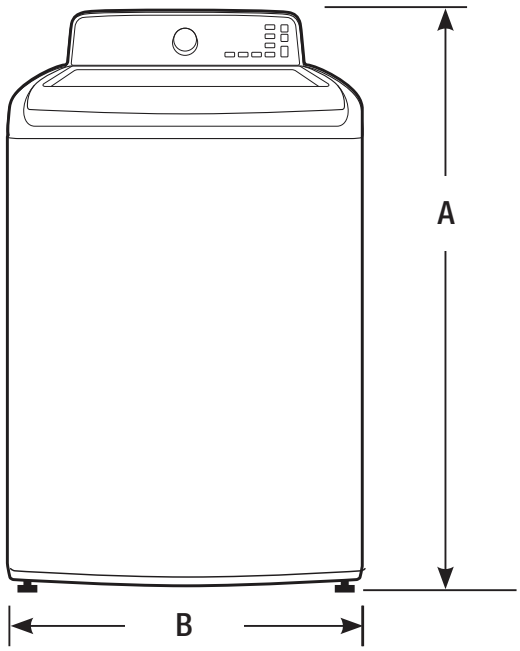
2. FEATURES AND SPECIFICATIONS

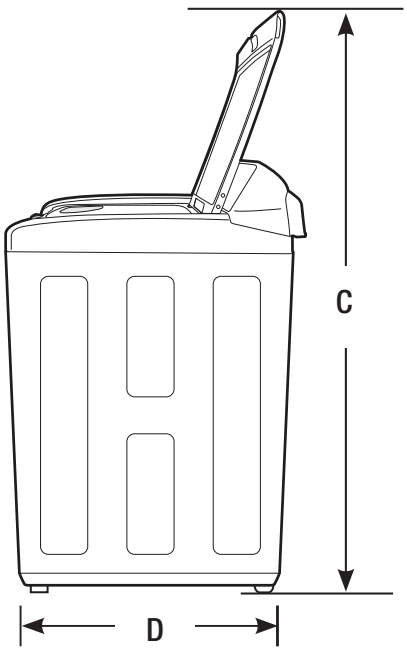
2-1. FEATURES

Features	Description
The Great Capacity	• Even bulky garments and blankets get super clean. The Great capacity leaves enough room for a more thorough, cleaner wash.
AquaJet™	• AquaJet™ washes loads gently and more thoroughly than conventional top loaders. Sprayed water allows detergent to distribute evenly and penetrate fabrics faster and deeper. AquaJet™ delivers improved cleanliness and advanced fabric care.
DD Motor	• The power to handle anything! Our direct-drive inverter motor delivers power right to the washer tub from a variable speed, reversible motor. Beltless direct-drive motor generates a higher spin speed for more effective, quiet operation. The washer also has fewer moving parts, meaning fewer repairs.
Mist Shower	• A separate nozzle has been adopted that sprays water equally so that the rinse cycle is effective even with a small amount of water.
VRT® (Vibration Reduction Technology)	• This Samsung washer performs smoothly at top spin speeds, minimizing noise and vibration.
Self Clean (Tub Cleaning cycle)	• Clean your drum with one button! This Pure Cycle is specially designed to remove detergent residue & dirt bulid up in the tub, without the need for special chemical detergents.
EZ-Closed Lid	• The door is designed to close softly and prevent users from being injured
Smart Care	• Samsung's Smart Care, an automatic error-monitoring system, detects and diagnoses problems at an early stage and provides quick and easy solutions.

2-2. SPECIFICATIONS

TYPE		TOP LOADING WASHER	
DIMENSION (Inches / cm)	A. Height	43.9″ / 111.5cm	
	B. Width	27.0″ / 68.6cm	
	C. Height with Door open	58.1″ / 147.6cm	
	D. Depth	29.3″ / 74.4cm	
WATER PRESSURE		20~116psi (137~800kPa)	
WEIGHT		64kg (141.1 lb)	
CAPACITY		4.8cu.ft	
POWER CONSUMPTION	WASHING	120V	700W
	SPIN	120V	400W
	DRAIN	120V	80W
SPIN REVOLUTION		1,100rpm	

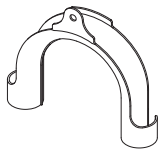
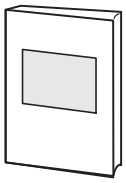




2-3. DETAIL FEATURES

Grade		WA48H7400AW/A2	WA48H7400AP/A2
Image			
Main Spec.	Capacity(DOE)	4.8	4.8
	Aqua Jet™	Yes	Yes
	Smart Care	Yes	Yes
	Diamond interior drum	Yes	Yes
	Self Clean	Yes	Yes
	Washing Cycles	11	11
	Internal Heater	-	-
	VRT®	Yes	Yes
	Pulsator material	STS	STS
	Max rpm (Max spin speed)	1,100	1,100
	Mist Shower	Yes	Yes
	Motor	DD	DD
Design	Color	Neat White	Neat White
	Main display	18:88	18:88
	Jog Dial	Chrome	Chrome
	LED color	Ice-blue	Ice-blue
	Door Lid TC	Tempered Tinted glass	Tempered Tinted glass
	Easy door	Yes	Yes
	Top Cover	Steel(EGI) + Painting	Steel(EGI) + Painting
Energy	MEF (cf/kWh/cycle)	2.66	2.66
	WF (gal/cycle/cf)	3.70	3.70
	EnergyGuide (kWh/year)	165	165

2-4. OPTIONS SPECIFICATIONS

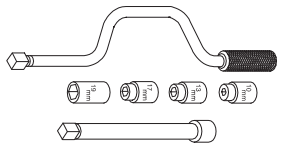
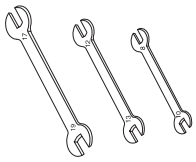
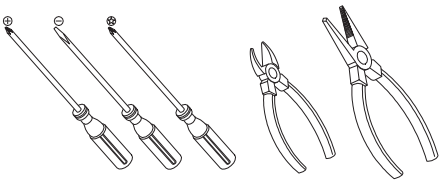
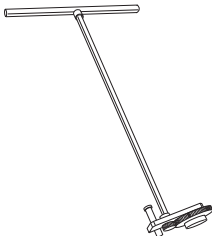
Item	Item Name	Code No.	Remark
	HANGER-HOSE	DC61-00224A	Default
	USER MANUAL	DC68-03133P	Default
	CABLE TIE	6501-000121	Default
	ASSY CAP V.W	DC97-18313A	Default

Note

- Customer can purchase Water supply, drain hoses and assy leg support from a service center.

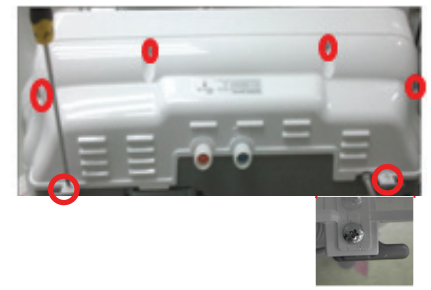
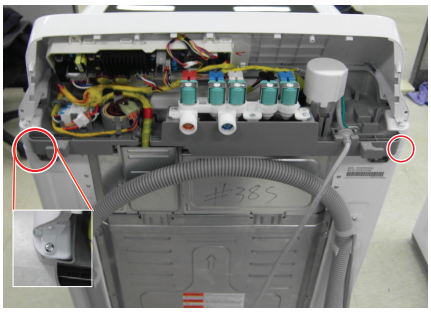
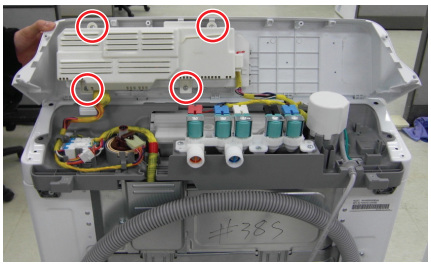
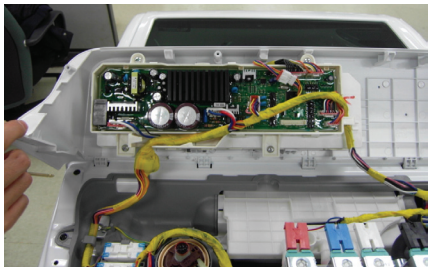
3. DISASSEMBLY AND REASSEMBLY

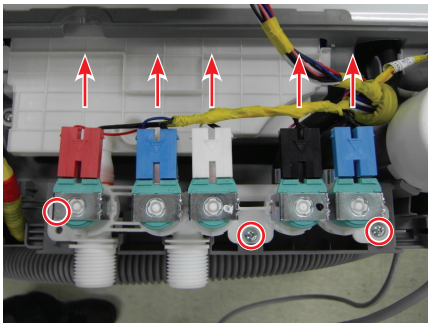
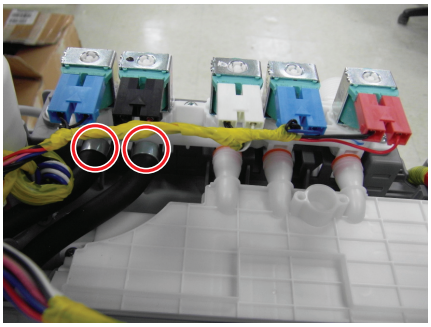
3-1. TOOLS FOR DISASSEMBLY AND REASSEMBLY

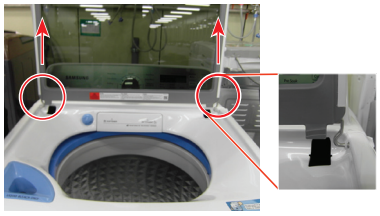
Tool		Type	Remarks
	Box driver	10mm 17mm	Tub(16), Fixer screw(5), Motor(1), Balance(5) Damper(2), Damper(friction 1)
	Double-ended spanner	10mm 17mm	Replaced by box driver Leg
	Vice pliers		A Tool for protecting empty turning of bolt or abrasion from using box driver For disassembly of Spin drum
	Others (screwdriver, nipper, long nose pliers)		Common tools for servicing
	JIG for the ASSY SPIN BASKET		

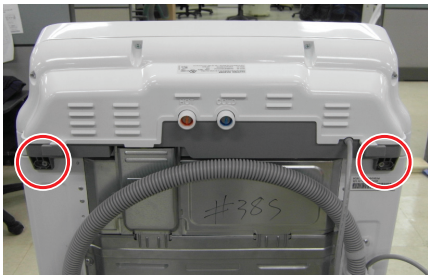
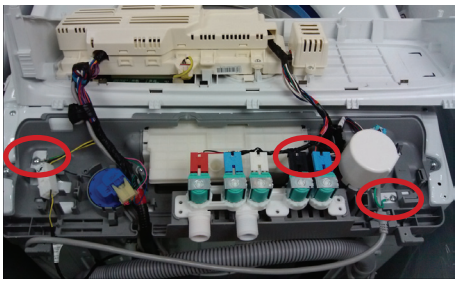
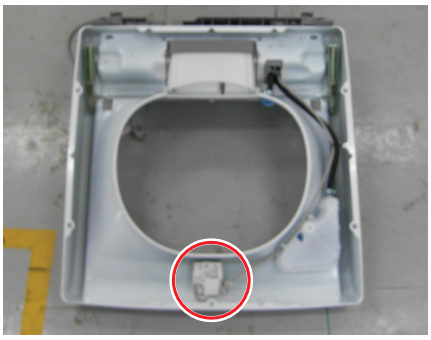
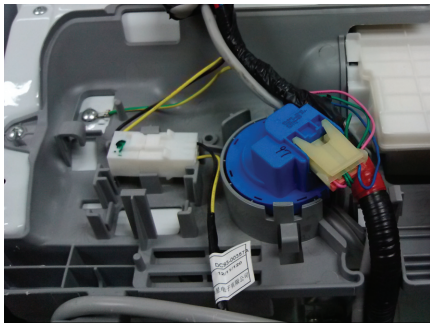
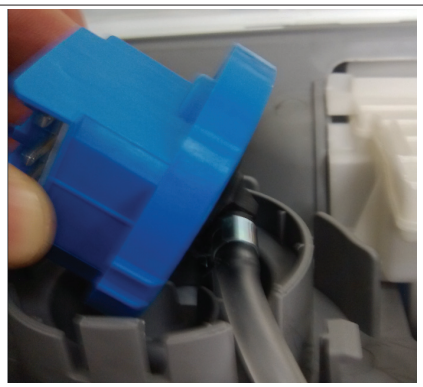
3-2. STANDARD DISASSEMBLY DRAWINGS

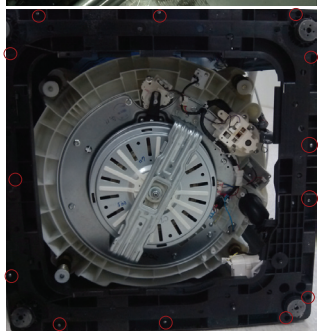
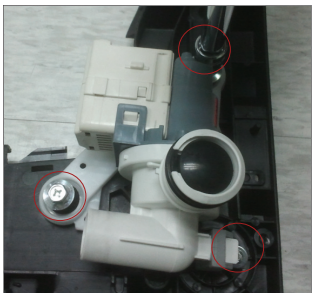
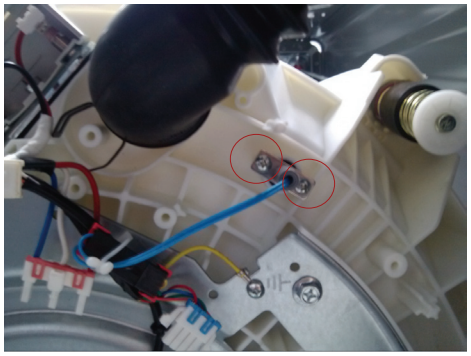
► This is a standard disassembly diagram and may differ from the actual product.
Use this material as a reference when disassembling and reassembling the product.

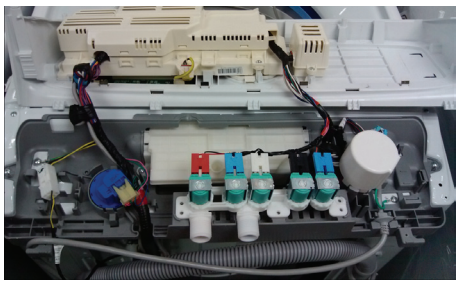
Part	Figure	Description
Sub and Main PCB Assembly		1. Remove the 6 screws holding the control panel assembly. 2. Separate the both hooks. (Left and Right) 3. Separate the cover panel upward. If it is difficult to disassemble, use the (-) driver to disassemble hooks. (Be careful damage of hooks.)
		4. Remove the 2 screws holding the control panel assembly and turn the panel over.
		5. Pull the Encoder-Knob to separate it and then remove the 4 fixing screws. When reassembling the PCB, take care that you do not damage the control-panel fixing hook. After replacing the sub PCB, check the key operation.
		6. Separate the cover pcb(m) and the wires connected to the main PBA. After reassembling the housing, check if the wires are properly connected. When disassembling and reassembling the housing, take care that you do not damage the part.

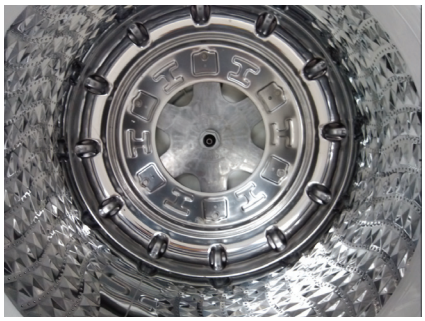
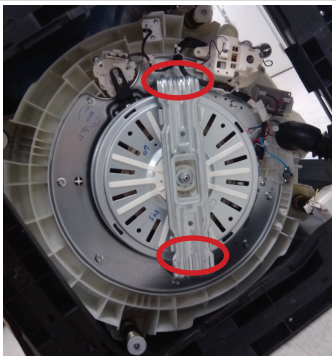
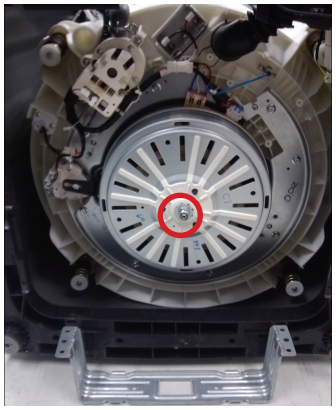
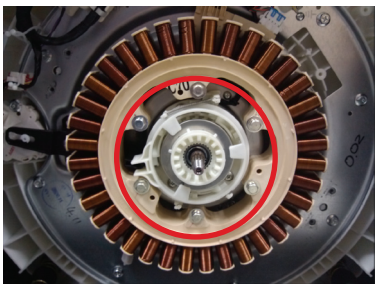
Part	Figure	Description
Water Valve		1. After separating the control panel, separate the water-valve housing. 2. Remove the 3 fixing screws.
		3. Remove the wire-harness and release the 2 clamps connecting the hoses. When releasing the clamps, take care that you do not tear the hoses.

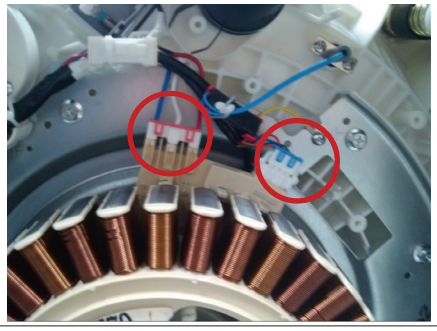
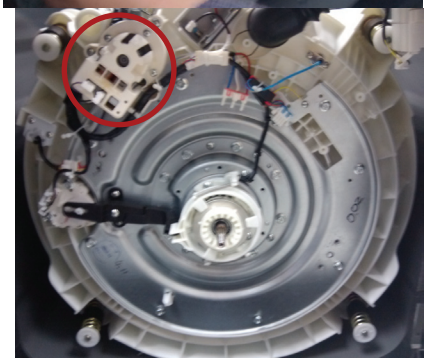
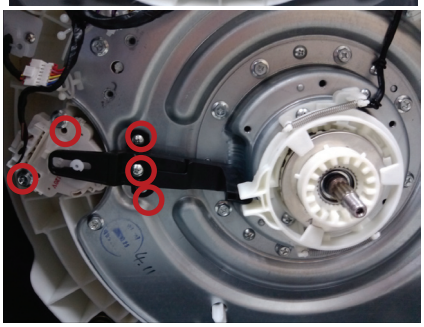
Part	Figure	Description
Door Assembly	 	1. Remove the 2 inlay tapes. 2. Remove the 4 screws holding the door lid TC and separate the door.

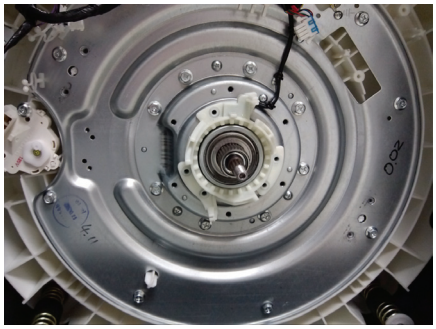
Part	Figure	Description
Top Cover Assembly / Door Switch		1. Remove the 2 screws from the cover plate. 2. Separate the control panel assembly.
		3. Separate the Assy Valve Water, the main PBA, the Assy Sensor Pressure and the filter EMI housing. Separate the housing to prevent stress and damage to the wire-harness. 4. Separate the main wire harness, the pressure switch hose clip , Grounding screw . 5. Release the bleach hose clamp.
		6. Separate the top cover assembly by lifting and pushing ahead the top part of the assembly. 7. you can check the door switch If turn the Top cover upside down.
Sensor Pressure Switch		1. Disassemble the control panel assembly. 2. Separate the pressure switch housing.
		3. Before separating the hose, release the clip. When releasing the clip, take care that you do not tear the hose.

Part	Figure	Description
Drain-Pump	  	1. Separate the back cover 2. Separate 2 clamps. 3. Remove the 13 screws in base. 4. Remove the 3 screws 5 screws are separated by '+' shape hand driver.
Thermistor		1. Remove the 2 screws.

Part	Figure	Description
Clutch Assembly (continued)		1. Separate the top cover assembly by lifting and pushing ahead the top part of the assembly 2. Remove the 2 screws holding the panel control Separate all the wires connected to the housing.
		3. Remove the 4 screws fixing the tub-cover and separate the tub-cover.
		4. Separate the pulsator-cap by inserting the tip of a (-) screwdriver between the pulsator-cap and the pulsator and then lifting the screwdriver up (↑).
		5. Remove the bolt holding the pulsator with a 10mm wrench.

Part	Figure	Description
Clutch Assembly (continued)		6. Remove the shaft with the jig wrench. - Release the nut in a clockwise direction. - Fasten the nut in a counterclockwise direction.
		7. Place the main body so that the front frame faces upward and remove the 4 bolts holding the saddle with a 10mm wrench. When you place the washer on the floor, take care that you do not damage or scratch the product.
		8. Remove the bolt holding the DD-motor housing with a 17mm wrench and then remove the motor housing.
		9. Remove the 6 bolts holding the DD-motor with a 10mm wrench.

Part	Figure	Description
Clutch Assembly (continued)		10. Separate the 2 marked housings and then remove the DD-motor. 11. Press the hook to separate the housing.
	   	12. Separate the slide guide and the coupling by pulling them forward. Disassemble the coupling and the spring.

Part	Figure	Description
		13. Remove the all screws fixing the clutch assembly and then separate the clutch assembly.

Reassembly procedures are in the reverse order of dissasembly procedures.

4. TROUBLESHOOTING

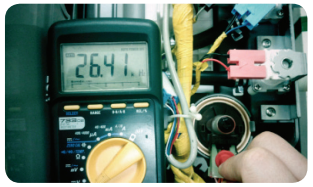
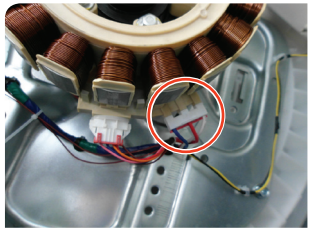
4-1. ERROR MODES

► **This is a washer integrated error mode. For detailed information, refer to the general repair scripts.**

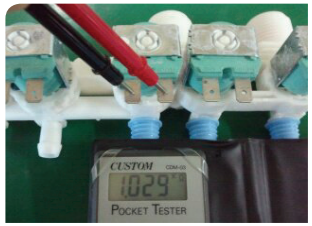
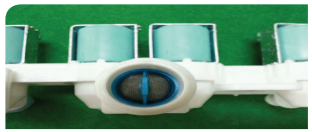
NO	Error Code (Diagnostic Code Error Image)	Description	Corrective Action
1	5E	The water level fails to drop below the Reset Water Level within 30 minutes.	Go to " Will Not Drain" Troubleshooting Section.
2	dE1	Door fails to Unlock After 7 attempts.	Go to " Will Not Unlock" Troubleshooting Section.
3	4E	When the filling Continues for more than 60 minutes or there is no change of water level for 5 minutes.	Go to " No Water Fill" Troubleshooting Section.
4	LE	A water level lower than the Reset water level is detected for 5 seconds during the Wash/Rinse cycle.	Go to "No Water Fill" Troubleshooting Section.
5	1E	Water Level Sensor Trouble. (When the input signal from the water level sensor is out of range, the unit will send out beeping sounds and halts the cycle.)	Go to "No Water Fill" Troubleshooting Section
6	OE	A fault is detected in the water level sensor. Data (frequency) shows the water level is at or above the overflow water level. (When this condition is detected, the machine will automatically starts draining water until the water level falls below the reset water level)	First check to see that all of water valves are not stuck. If water valves are OK, check water level.
7	UE	Unbalance or cabinet bump is detected during final spin.	Go to "Wet Clothes" Troubleshooting Section.
8	dE	Door is detected as open while it is trying to lock the door.	Go to "Quick Test Mode" and then do Door Lock/Unlock Test
9	tE	This occurs when the water temperature sensor fault is detected continuously for 5 seconds.	Go to "Board Input Test" and check Water Temperature. Check loose or pinched wires. Replace PCB or thermistor.
10	3E	MICOM is attempting to drive the motor but is not getting any response signals from the hall sensor. Visual check shows motor is not running. (Locked, Defective Hall Sensor or Overload)	Evaluate wire harness for loose or unhooked connections. Go to "Quick Test Mode" and test Motor.
11	4E	The hot/cold water hose connection is not correct.	Please connect the hot/cold water hose connection correctly.
12	Sud Sd	Suds is detected during the washing session. ("SUd" or "Sd" is not an error. When it finishes washing, End and the "SUd" or "Sd" code will blink in turn.)	Guide a user to reduce amount of detergent usage.

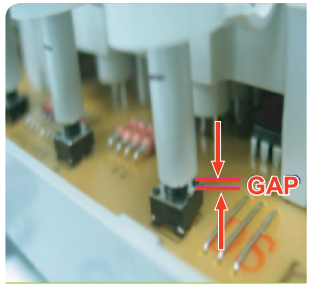
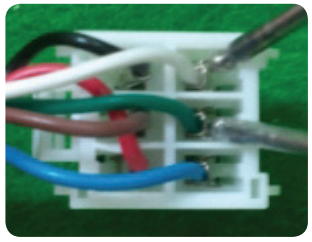
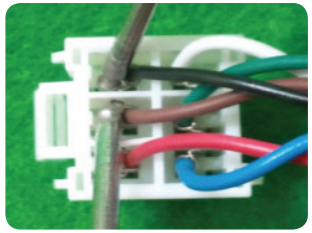
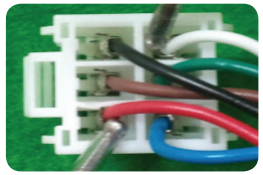
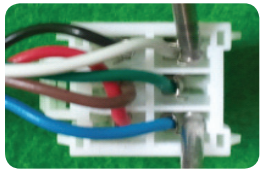
NO	Error Code (Diagnostic Code Error Image)	Description	Corrective Action
13	AE	Communication error between SUB PBA and MAIN PBA	Check Main PBA, SUB PBA & Wireharness. Replace PCB.
14	8E 8E1 8E2	If the output from the MEMS sensor is over 4.5V or under 0.5V and it continues for 5 seconds, this error occurs.	1. Check the MEMS sensor and PBA. 2. Check the wire connector terminals
15	bE2	A button except the Power button is continually pressed.	Check whether either the Power switch or a tact switch is continually pressed
16	4E2	The hot/cold water hose connection is not correct.	Please connect the hot/cold water hose connection correctly.
17	PE (Clutch Motor Error)	This error occurs when the position of the clutch is not detected. - If the position detection signal is not received 15 seconds after the clutch motor starts, the spin drum is shaken left and right and then the motor is restarted. If the motor position signal is not received even after 3 reattempts, a PE error occurs.	1. Check the clutch motor. 2. Check the assembly status of the clutch motor. 3. Check the wire connector terminals.
18	PE1 (Clutch Motor Error)	Suds is detected during the washing session. (“SUd” or “Sd” is not an error. When it finishes washing, End and the “SUd” or “Sd” code will blink in turn.)	Guide a user to reduce amount of detergent usage.

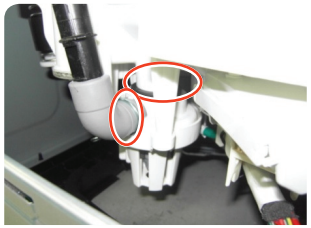
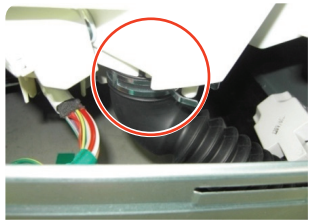
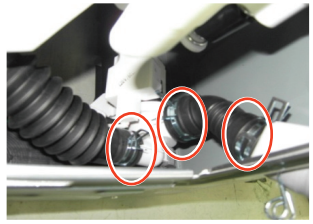
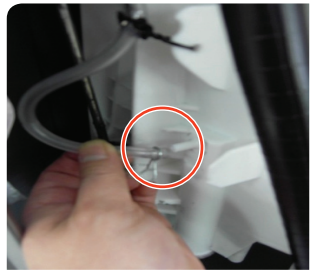
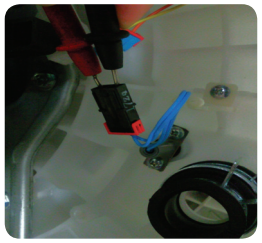
► These are common troubleshooting procedures for each drum-type washer error mode. For detailed information, refer to the general repair scripts.

Error Type	Error Mode / Display	Causes	Corrective Actions	Description of Photo
Water Level Sensor	1E	• Water level sensor fault • Incorrect connections of the water level sensor terminal • The hose part for the water level sensor is folded. • Main PCB fault	• Check the water level sensor terminal connections and contacts. • An error occurs if an incorrect water level sensor is used. Make sure to check the material code. (Abnormal operation) • If the water level sensor is faulty, replace it. • If the error persists despite taking the action above, replace the PBA.	 ► Check the water level sensor frequency. 1. Check it after the water level sensor and the connector are connected. Checking Part : Blue Color Wire Oragne Color Wire 2. Frequency: Approx. 26.4 KHz without water (Min 25.9KHz)
Washing Motor Error and Hall Sensor Error	3E	· Washing motor fault · Washing motor hall sensor fault · Incorrect connections of the washing motor/hall sensor connector · Washing motor rotor and stator fault · Main PCB fault	• Check the motor connector terminal connections and contacts. • 3E is displayed because overloading occurs due to too much laundry. • If the hall sensor terminal is faulty, replace the hall sensor. • Check whether the stator of the motor cover is damaged. • Check for coil disconnections due to foreign material. • If the PBA control circuit is faulty, replace the PBA.	 ► Check the motor Winding Coil • Plug out the connector and read resistances at any two of the three terminals on Motor : Should be 19.3Ω (at 25°C) **CN1** 1-5V-1 2-Hall-A 3-Hall-B 4-GND 5-Clutch Hall IC ► Check the motor Hall Sensor • Check the resistance on the main PCB motor (Between pins 2 and 4, 3 and 4 of the four (4) pins) - Resistance : Approx. 2 to 4 MΩ - Check the voltage when the power is on.

► These are common troubleshooting procedures for each drum-type washer error mode. For detailed information, refer to the general repair scripts.

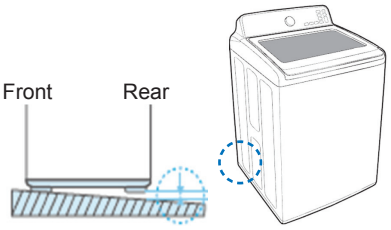
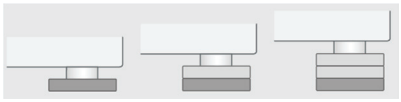
Error Type	Error Mode / Display	Causes	Corrective Actions	Description of Photo
Water Supply Error	4E	• Water supply value fault • Main PCB fault • Freezing in the winter season	• If the water supply valve has a wire disconnected, replace it. • Check whether the water supply valve is clogged with foreign material and whether water is supplied continually. • Check whether no water is supplied because of freezing in the winter season. • If the PBA relay operates abnormally, replace the PBA	  1. Check the resistance for the water supply valve. - Resistance : 0.9KΩ to 1.1KΩ between the terminals of the Water Supply Valve. 2. Check whether there is foreign material in the Water supply valve filter.
Drain Error	5E	• Freezing in the winter season • Foreign materials in the drain pump • Poor physical connection • Drain pump fault • Main PCB fault	• If the drain pump revolutions are restrained due to freezing in the winter season, check the method to remove the freezing and remove as directed. • Check whether the revolutions of the drain pump motor are restrained by foreign material, and remove as directed. • Check the wire connectors on Main PCB and Drain Pump ASSY. The connector or wire may have poor physical connection. • Check the drain pump resistance.	 Check the drain pump resistance. (Resistance : 13.5 ~ 16.5 Ω)
Communication Error	AE	• The signals between the sub and main PBAs are not sensed. • Incorrect wire connections between the sub and main PBAs.	• Check the wire connections and terminal contacts between the sub and main PBAs. • Check for disconnected wires. • Check whether the sub PBA is short-circuited because of moisture. • If the main PBA's communication circuit is faulty, replace it.	-

Error Type	Error Mode / Display	Causes	Corrective Actions	Description of Photo
Switch Error (Main Relay Error)	bE2	• The Power button is continually pressed. • A button other than the Power button is continually pressed.	• Check whether either the Power switch or a tact switch is continually pressed. • Check whether the service PBA holding screws are fastened too tight. If they are fastened too tight, loosen them a little. • If the main PBA switching IC on/off error has occurred, replace the main PBA. • The “E2” error occurs if the main relay connections are incorrect. Check the connections. If there is no error in the connections, replace the main PBA.	 Check the contact between the control panel buttons and their corresponding tact switch. - There must be a gap between a control panel button and its corresponding micro switch. Otherwise, an error occurs after approx. 30 seconds has passed.
Door Error	dE1 dE	• Door-Lock SW fault • Reed SW fault • Main PCB fault	• Check the Door-Lock SW terminal connections and contacts. • Bring the probe of tester into contact with two terminals of Door-Lock SW. [DS Error] In state of Door Close, Check Reed SW Resistance. [FL Error] In state of Door Unlock, Check Motor Resistance. And In state of Door Lock, Check Door Lock Contact Resistance. [LO Error] In state of Door Unlock, Check Motor Resistance and Door Unlock Contact Resistance. • If Resistance is satisfied with Spec, Replace the PBA.	 1. Check the resistance for Reed SW (Checking Part : White-Green Wire) - Resistance: Approx 0.2Ω between the terminals of Reed SW.  2. Check the resistance for Motor (Checking Part : Black-Brown Wire) - Resistance: 33Ω to 46Ω between the terminals of Motor.  Lock  Unlock 3. Check the resistance for Lock/Unlock Contact (Checking Part : Lock White-Red Wire Unlock White-Blue Wire) - Resistance: Resistance: Approx 0.2Ω between the terminals of Contact. Check the Door Lock/ Unlock state.

Error Type	Error Mode Display	Causes	Corrective Actions	Description of Photo
Water Leakage Error	LE	• Check for any leakage. • Foreign material in the DV case. • Fault of a hose or incorrect part engagement in the product .	• Check for any leakage on the base, Hose, Valve and Tub connections and take any required action. • During natural draining, this error occurs when the drain bellows are clogged with foreign material. Remove the foreign material. • Check the drain motor operation. Replace if it does not operate normally.	  
Overflow Error	OE	• Water level sensor fault. • Freezing in the winter season.	• If the water level sensor has a functional error, replace it. • Check the hose. This error occurs if it is torn or has a hole. • This error occurs if water is frozen in the winter season. Use hair dryer to defrost hose. Consider relocating the unit to warmer location.	
Temperature Sensor Error	tE	• Washing temperature sensor fault. • Faulty and incorrect connections of sensor. • Main PCB Fault. • Freezing in the winter season.	• Check the connections of the temperature sensor. • If the temperature sensor has a functional error, replace it.	  Check the thermistor resistance (Resistance at 20~30°C: 66.187~36.941KΩ)

Error Type	Error Mode / Display	Causes	Corrective Actions	Description of Photo
Unbalance Error	UE	• Motor hall sensor fault • Caused by the laundry contents	• Check the type of laundry. Check whether it may cause an unbalanced situation. - Educate the consumer in this case is to press pause reposition the load or remove a few items. Press start to continue and complete the wash cycle.	-

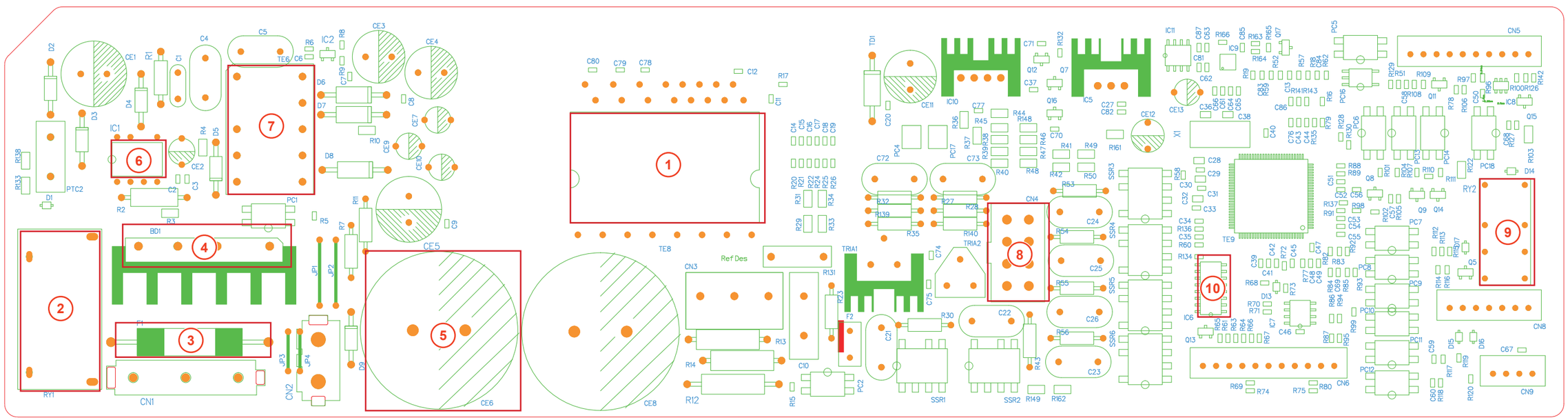
4-3. THE INSTALLATION FOR LEVELING

Problem Type	Causes	Corrective Actions
If the rear level of the floor is lower than the front level of the floor, it can't be leveled. 	• Only use the front legs to adjust the level.	• Use the leg supports to adjust the level of the rear. • If the floor is on a steeply slope, please use the additional leg supports.  • Customer can purchase the leg supports from a service center.

5. PCB DIAGRAM

5-1. MAIN PCB

► This Document can not be used without Samsung's authorization.

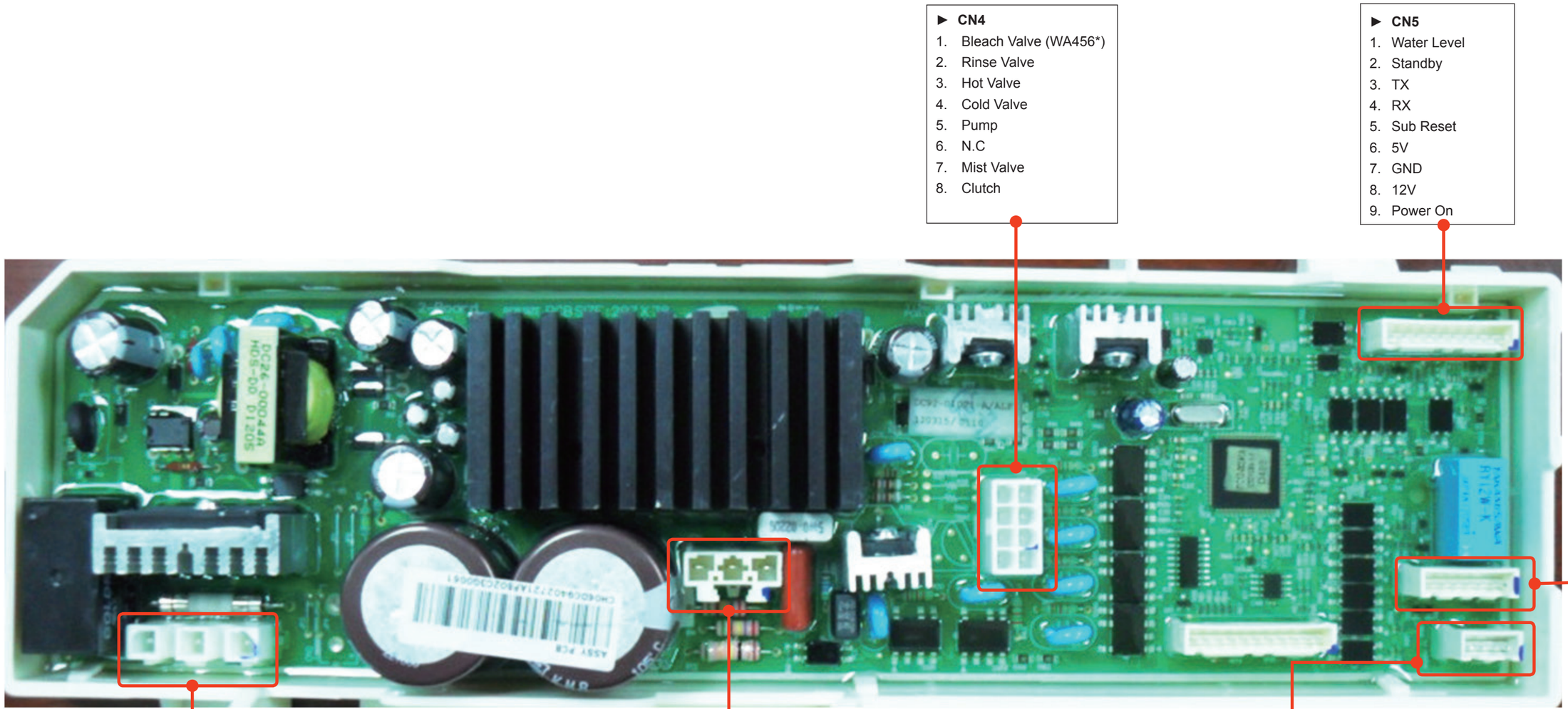


Location	Part No.	Function	Description
1	TE8	Motor Control	Control to Motor
2	RY1	Main Relay	Main Power Relay
3	F1	FUSE	Limit the Over-Current
4	BD1	Making DC Voltage	It works to Change the AC to the DC
5	CE6	Charging Voltage	Charge the DC LINK (300V)

Location	Part No.	Function	Description
6	IC1	Switching IC	Making a stable DC
7	TE6	Trans Circuit	Chopping the DC Link
8	SSR1~6 TRIAC1~2	Load Control	Turn ON/Off the Load(Valve etc.)
9	Q5,RY2	Door Lock Switch Driving Circuit	• Drive the Door Lock Switch • Toggle CW/CCW
10	IC6	Driving Circuit	Drive the SSR or Relay • Supply the Current to the Acting Current

5-2. DETAILED MANUAL FOR CONNECTOR AND RELAY TERMINAL PART - MAIN PCB

► This Document can not be used without Samsung's authorization.



► **CN4**
1. Bleach Valve (WA456*)
2. Rinse Valve
3. Hot Valve
4. Cold Valve
5. Pump
6. N.C
7. Mist Valve
8. Clutch

► **CN5**
1. Water Level
2. Standby
3. TX
4. RX
5. Sub Reset
6. 5V
7. GND
8. 12V
9. Power On

► **CN1**
1. AC1
2. AC2
3. AC2-1

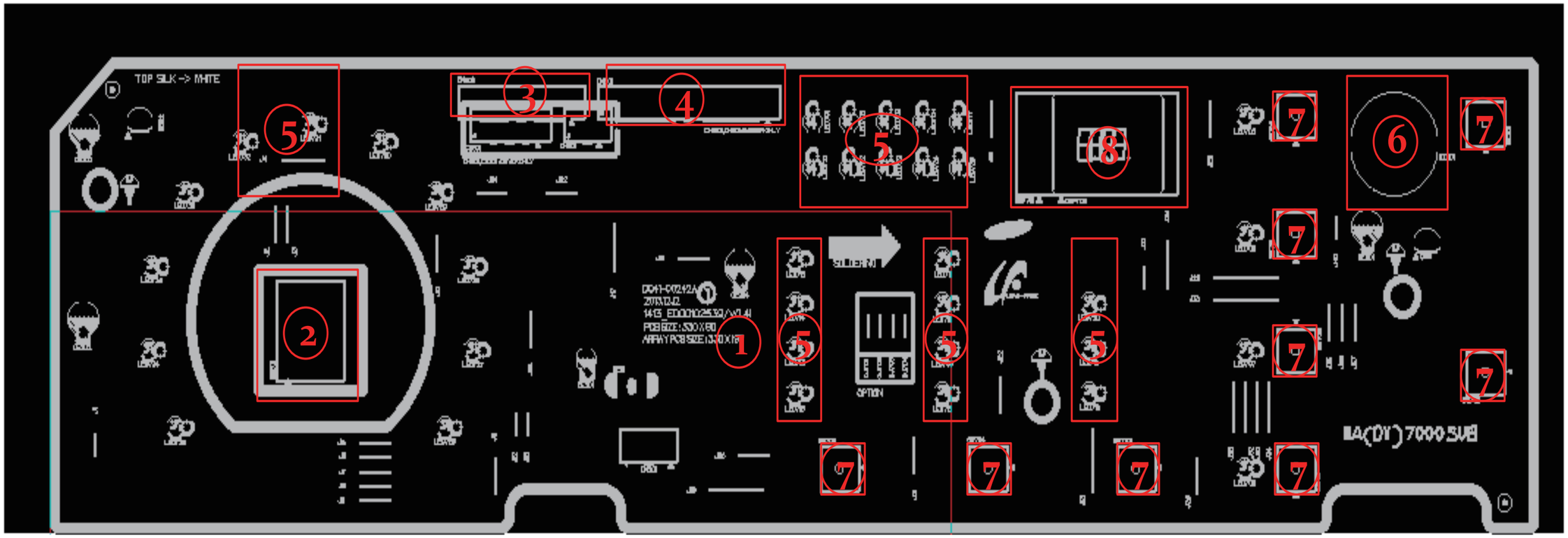
► **CN3**
1. Motor_U
2. Motor_V
3. Motor_W

► **CN9**
1. 5V
2. Hall_A
3. Hall_B
4. GND

► **CN8**
1. Door Lock Motor
2. Door Lock Motor
3. GND
4. Unlock Contact
5. Lock Contact
6. Reed Switch
7. 5V_1

5-3. SUB PCB

► This Document can not be used without Samsung's authorization.



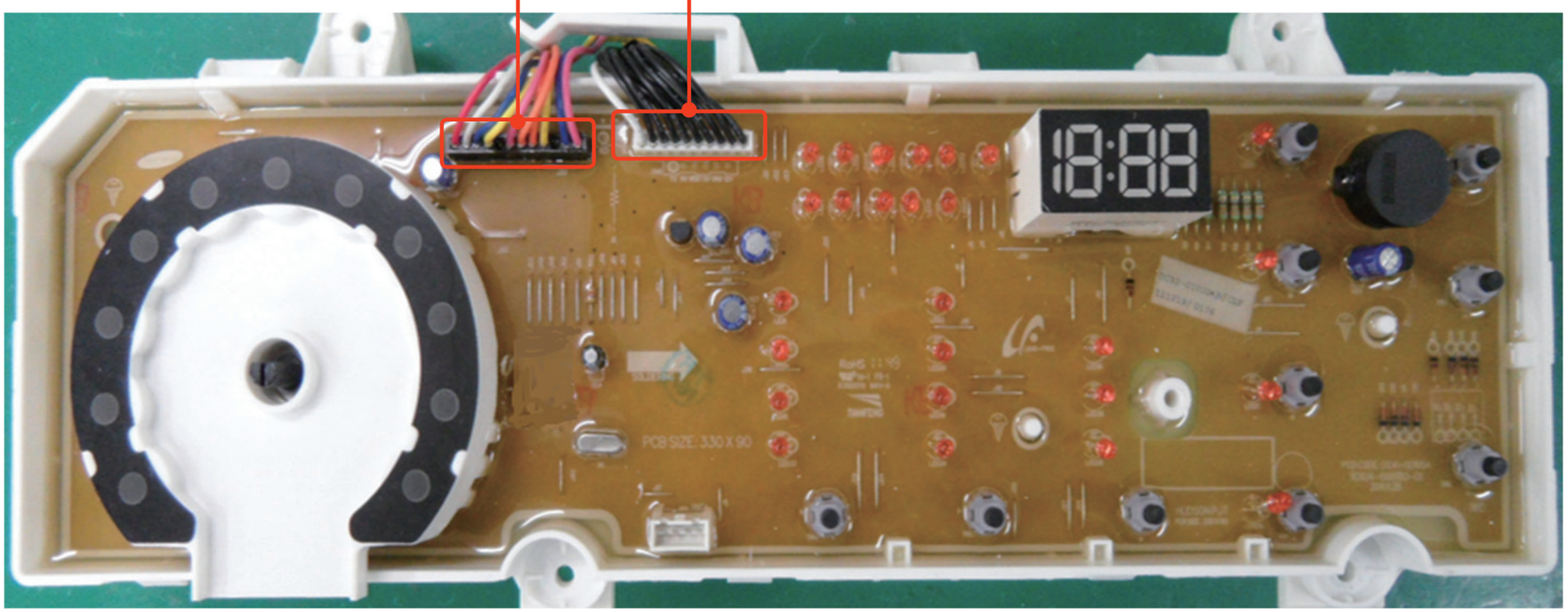
Location	Part No.	Function	Description
1	Micom201	Control Function	Control Key and LED Function
2	SW601	Jog Dial	Jog Dial
3	CN802	Wash Communication Part	Connect wash Main PBA
4	CN501	Conecting Sensing Part	Connecting Thermistor, cluch, Water Lavel and Mems Sensor
5	LED	LED Lamp	Display Function
6	BZ601	Buzzer	Making a sound
7	SW701~SW708,SW201	Switch	Operating or changing Function
8	DSP701	LED Display	Display Funciton

5-4. DETAILED MANUAL FOR CONNECTOR TERMINAL PART - SUB PCB

► This Document can not be used without Samsung's authorization.

► **CN802**
1. CLUTH
2. WL_MAIN
3. STANDBY
4. TX
5. RX
6. RESET
7. 5V
8. GND
9. 12V
10. POWER_ON

► **CN501**
1. 3.3
2. SPC_1
3. SDI_1
4. SDO_1
5. GND
6. CS1_1
7. GND
8. WATER_THERM
9. CLUTCH_SEN
10. WATER_SEN1
11. WATER_SEN2
12. 5V
13. CLUTCH
14.
15. GND



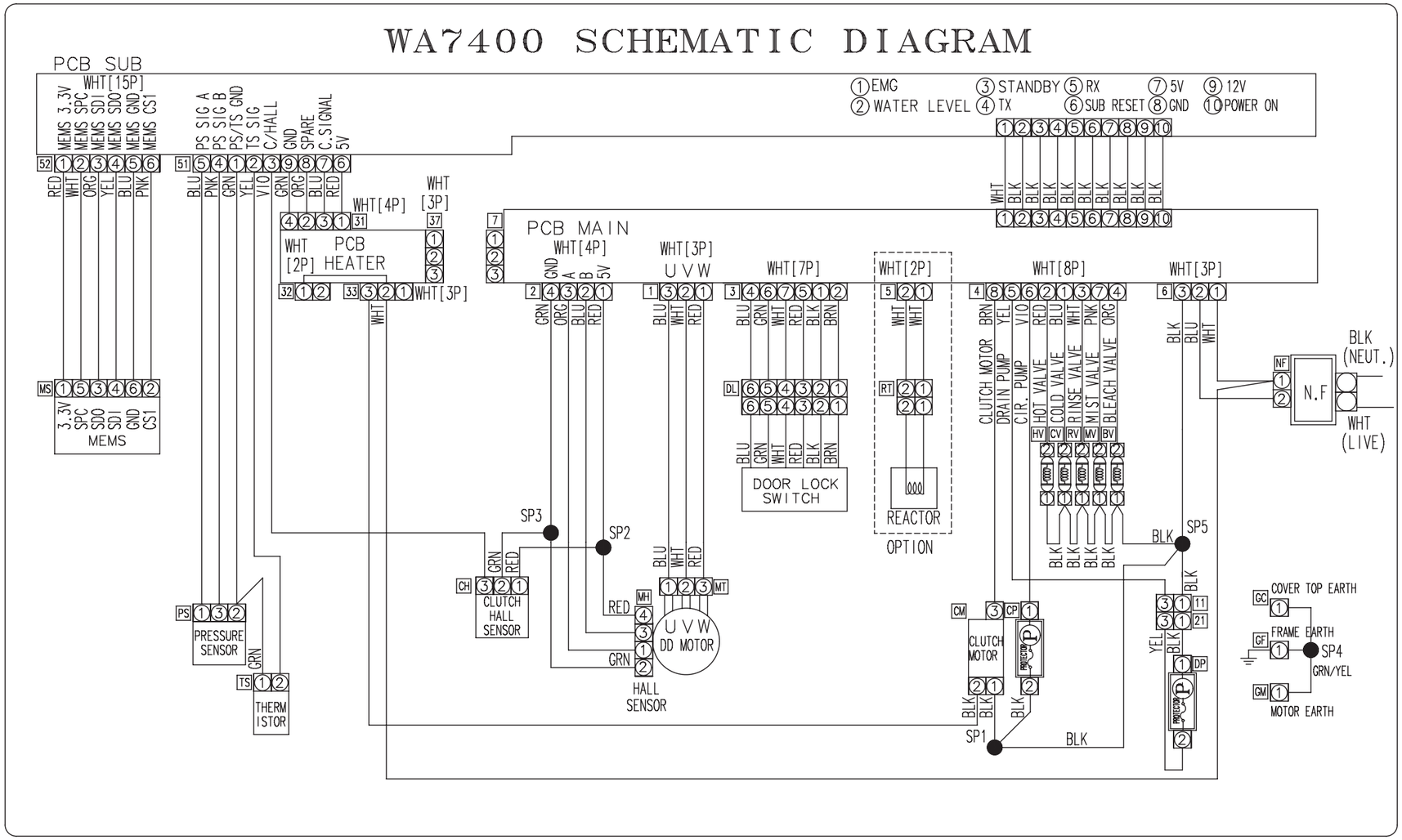
6. WIRING DIAGRAM

6-1. WIRING DIAGRAM

► This Document can not be used without Samsung's authorization.

●REFERENCE INFORMATION

BLK	BLACK
BLU	BLUE
GRN	GREEN
GRY	GRAY
NTR	NATURAL
ORG	ORANGE
PNK	PINK
RED	RED
SKYBLU	SKYBLUE
VIO	VIOLET
WHT	WHITE
YEL	YELLOW



7. REFERENCE

7-1. MODEL NUMBER NAMING RULES

①	②	③	④			⑤		⑥
Product Type	Capacity	Intro. Year	Series	Feature logic		Intro. Region. or TYPE	Color	Buyer
			Grade	1st Feature	2nd Feature	3rd Feature		
W	4	H	7	4	0	0	P	2
A	8						A	

① **Product type (CAN NOT CHANGE)** : Auto Washing machine (SAMSUNG' s Guide Line)

② **Market Claim Capacity** : 4.8 cu.ft=48
4.5 cu.ft=45

③ **Feature Code** : F – Intro.Year: 2013
H – Intro.Year: 2014
J – Intro.Year: 2015
A – Project First launching region:N.America

④ **Feature logic** : 7 – Grade: High
4 : Best/Hot-Cold water
0 : Inverter Motor,Drain Pump
0 : STS Pulsator

⑤ **Color** : A – N.America
P – INOX

⑥ **Buyer** : A2 : USA

This Service Manual is a property of Samsung Electronics Co.,Ltd.
Any unauthorized use of Manual can be punished under applicable International and/or domestic law.

© 2014 Samsung Electronics Co.,Ltd. All rights reserved.

16 AUG. 2014